What is claimed is:

1. A target binding protein, comprising

a. a first polypeptide comprising a first single chain Fv molecule (scFv) and a first immunoglobulin-like domain; and

b. a second polypeptide comprising a second scFv and a second immunoglobulin-like domain,

wherein said first and second scFv each form two target binding sites independently, or wherein said first scFv associates with said second scFv to form two target binding sites; and wherein said first immunoglobulin-like domain associates with said second immunoglobulin-like domain to form a third target binding site.

2. The target binding protein of claim 1, wherein said first scFv and said first immunoglobulin-like domain are linked via a first extra amino acid sequence, and wherein said second scFv and said second immunoglobulin-like domain are linked via a second extra amino acid sequence.

3. The target binding protein of claim 2, wherein said first extra amino acid sequence associates with said second extra amino acid sequence.

4. The target binding protein of claim 3, wherein said first extra amino acid sequence associates with said second extra amino acid sequence via at least one disulfide bond.

5. The target binding protein of claim 2, wherein said first immunoglobulin-like domain comprises an immunoglobulin light chain variable region domain or a derivative thereof, wherein said first extra amino acid sequence comprises an immunoglobulin light chain constant region domain or a derivative thereof, wherein said second immunoglobulin-like domain comprises an immunoglobulin heavy chain variable region domain or a derivative thereof, and wherein said second extra amino acid sequence comprises an immunoglobulin heavy chain constant region domain or a derivative thereof.

6. The target binding protein of claim 5, wherein said first immunoglobulin-like domain comprises an immunoglobulin light chain variable region domain, wherein said first extra amino acid sequence comprises an immunoglobulin light chain constant region domain, wherein said second immunoglobulin-like domain comprises an immunoglobulin heavy chain variable region domain, and wherein said second extra amino acid sequence comprises an immunoglobulin heavy chain constant region domain.

7. The target binding protein of claim 5, wherein the first scFv and the immunoglobulin light chain constant region domain are linked via a first peptide linker, and wherein the second scFv and the immunoglobulin heavy chain constant region domain are linked via a second peptide linker.

8. The target binding protein of claim 7, wherein the first peptide linker comprises the amino acid sequence EPKSADKTHTCPPCPGGGS, and wherein the second peptide linker comprises the amino acid sequence EPKSCDKTHTCPPCPGGGS.

9. The target binding protein of claim 1, wherein at least two of the three target binding sites have different target binding specificities.

10. The target binding protein of claim 1, wherein at least two of the three target binding sites have the same target binding specificity.

11. The target binding protein of claim 1, wherein the first polypeptide or the second polypeptide is linked to an additional amino acid sequence at either the N- or C-terminus thereof.

12. The target binding protein of claim 11, wherein said additional amino acid sequence comprises a polypeptide selected from the group consisting of a peptide tag, a signal peptide, an enzyme, a cytokine, a toxin, a drug and a cytotoxic protein.

13. The target binding protein of claim 1, wherein either the first polypeptide or the second polypeptide further comprises a N-glycosylation recognition sequence.

14. The target binding protein of claim 13, wherein a carbohydrate chain is linked to the N-glycosylation recognition sequence.

15. The target binding protein of claim 14, wherein the carbohydrate chain is linked to an agent selected from the group consisting of a drug, a radioactive compound, a chelate, an enzyme, a toxin, a cytokine and a cytotoxic protein.

16. The target binding protein of claim 1, wherein the target binding protein is conjugated to an agent selected from the group consisting of a drug, a radioactive compound, a chelate, an enzyme, a toxin, a cytokine and a cytotoxic protein.

17. The target binding protein of claim 1, wherein one target binding site is capable of binding to a toxin, a drug, a cytokine, a chelate, an enzyme, a radioactive compound or a cytotoxic protein, and wherein the other two target binding sites are capable of binding to tumor antigens.

18. The target binding protein of claim 1, wherein one target binding site is capable of binding to a tumor antigen, and wherein the other two target binding sites are capable of binding to toxins, drugs, cytokines, chelates, enzymes, radioactive compounds or cytotoxic proteins.

19. The target binding protein of claim 1, wherein one target binding site is capable of binding to a tumor antigen, and the other two target binding sites are capable of binding to surface proteins of a T cell or another effector cell.

20. The target binding protein of claim 19, wherein said surface proteins of a T cell are CD28 and CD3.

21. An isolated nucleic acid molecule comprising a polynucleotide encoding the first polypeptide of claim 1.

22. A vector comprising the nucleic acid of claim 21.

23. A host cell comprising the vector of claim 22.

24. A host cell comprising a first and second vector, wherein said first vector comprises a first nucleic acid which comprises a first polynucleotide encoding the first polypeptide of claim 1, and wherein said second vector comprises a second nucleic acid which comprises a second polynucleotide encoding the second polypeptide of claim 1.

25. A method of producing a target binding protein, comprising culturing the host cell of claim 24 in a suitable medium, and separating said target binding protein from said medium.

26. An isolated nucleic acid molecule comprising a polynucleotide encoding the second polypeptide of claim 1.

27. A vector comprising the nucleic acid of claim 26.

28. A host cell comprising the vector of claim 27.

29. An isolated nucleic acid molecule comprising a polynucleotide encoding the first and second polypeptides of claim 1.

30. A vector comprising the nucleic acid of claim 29.

31. A host cell comprising the vector of claim 30.

32. A method of producing a target binding protein, comprising culturing the host cell of claim 31 in a suitable medium, and separating said target binding protein from said medium.

33. A method of eliciting an immune response against a tumor, comprising administering to a subject an effective amount of the target binding protein of claim 19.

34. A method of eliciting an immune response against a tumor, comprising administering to a subject an effective amount of the target binding protein of claim 20.

35. A method of treating or detecting a tumor in a subject, comprising administering to said subject an effective amount of the target binding protein of claim 17.

36. A method of treating or detecting a tumor in a subject, comprising administering to said subject an effective amount of the target binding protein of claim 18.

37. A method of treating or detecting a tumor in a subject, comprising administering to said subject an effective amount of the target binding protein of claim 12, wherein at least one target binding site of the target binding protein binds to a tumor antigen.

38. A method of treating or detecting a tumor in a subject, comprising administering to said subject an effective amount of the target binding protein of claim 15, wherein at least one target binding site of the target binding protein binds to a tumor antigen.

39. A method of treating or detecting a tumor in a subject, comprising administering to said subject an effective amount of the target binding protein of claim 16, wherein at least one target binding site of the target binding protein binds to a tumor antigen.

40. A method of treating a tumor in a subject in need of treatment thereof, comprising

a. administering to said subject the target binding protein of claim 1; and

b. administering to said subject a pharmaceutically effective amount of a cytotoxic agent.

41. The method of claim 40, further comprising reducing the amount of said target binding protein from said subject prior to administering said cytotoxic agent.